Abstract

Known methods use the temperature of the water bath which surrounds the liquid sample as the adjusting parameter. The aim in these methods is to maintain the water bath at a constant temperature in order to fulfill the prerequisites for calibration. In contrast, in the inventive method a measurement is determined for the maximum permissible drift (α_{max}) in the temperature of the water bath (ϑ_B) which is measured as the equivalent of the sample temperature (ϑ_P). This greatly simplifies the problem of adjusting the temperature which primarily arises as a result of the delays in the control circuit. The adjusting element need only recognize a drift (α) and correct the sum of the thermal currents which have occurred, to zero, allowing for a residual error ($P_{restmax}$) which results from a permissible contouring error (ϑ_B, ϑ_P). The release of heat from the mixing propeller (Q) is used to obtain a rapid compensation. In addition, a number of improvements have been made to the construction of a device for carrying out the inventive method. Overall, said inventive method results in much more accurate measurement results. The method and device can be used in all fields in which the determination of the salt content of liquids is of interest, for example, in oceanography and in this particular field, in polar research.